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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,774	01/15/2004	Daniel K. Zitting	2822-6022US (01-2)	5475

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EXAMINER	
LEE, GILBERT Y	
ART UNIT	**PAPER NUMBER**
3673	

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,774	ZITTING ET AL.	
	Examiner	Art Unit	
	Gilbert Y. Lee	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-100* is/are pending in the application.

4a) Of the above claim(s) *5,10-12,15-48,56,61,64-68,70-90,93-98 and 100* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6-9,13,14,49-55,57-60,62,63,69,91,92 and 99* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/15/04,4/4/05*. 10/14/05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Military Standardization Handbook.

DETAILED ACTION

Response to Arguments

1. Applicant's election without traverse of Species IV in the reply filed on 10/15/05 is acknowledged. It is noted that the applicant has stated that claims 1-4, 6-9, 13, 14, 49-55, 57-60, 62-69, 91, 92 and 99 are shown in figures 4A and 4B, but the examiner is withdrawing claims 64-68. Claims 64-66 reference a pressure relief structure which is shown in a non-elected species (Figs. 1I and 1J). Claims 67 and 68 reference a pressure equalizing structure also shown in a non-elected species (Figs. 1K-1P).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 6-9, 13, 14, 49-55, 57-60, 62, 69, 91, and 99 rejected under 35 U.S.C. 102(b) as being anticipated by Sawai (US Patent No. 6,176,492).

Regarding claim 1, the Sawai reference discloses a sleeve element (141) for sealing between a piston (69) and a bore surface (54) comprising:

a substantially annular body (Fig. 12) including an inner surface, an outer surface, a first end region (top half of 81), and a second end region (bottom half of 81);

wherein at least a portion of the first end region of the annular body is configured to be biased laterally into recess (84U);

at least one sealing feature (portion of 81 above groove 145).

Regarding claim 2, the Sawai reference discloses a bearing surface (82).

Regarding claims 3 and 6, the Sawai reference discloses the sleeve element comprising nylon (Col. 4, Lines 42,43). Note that nylon is known to be resilient and will allow the seal to be compressed.

Regarding claim 4, the Sawai reference discloses a sleeve element sized and configured to engage the piston element surface with the inner surface of the annular body (Fig. 13).

Regarding claim 7, the Sawai reference discloses a first sealing feature (portion of 81 above groove 145) configured to be biased laterally into a first recess (84U). Note that the purpose of the energizer (85U) is to push the seal element (81) outwardly and without the energizer the first sealing feature would be biasing into the first recess.

Regarding claim 8, the Sawai reference discloses a second sealing feature (portion of 81 below groove 145) configured to be biased laterally into a second recess (84L). Note that the purpose of the energizer (85L) is to push the

seal element (81) outwardly and without the energizer the second sealing feature would be biasing into the second recess.

Regarding claims 9, 13 and 14, the Sawai reference discloses a first depression (upper groove 83 of Fig. 13) and a second depression (lower groove 83 of Fig. 13).

Regarding claim 49, the Sawai reference discloses a sleeve element (141) for sealing between a piston (69) and a bore surface (54) comprising:

a substantially annular body (Fig. 12) including an inner surface, an outer surface, a first end region (top half of 81), and a second end region (bottom half of 81);

a first recess (84U);

wherein at least a portion of the first end region of the annular body is configured to be biased laterally into recess (84U);

at least one sealing feature (portion of 81 above groove 145).

Wherein at least a portion of a first sealing feature first sealing feature (portion of 81 above groove 145) configured to be biased laterally into a first recess (84U).

Regarding claims 50 and 54, the Sawai reference discloses the sleeve element comprising nylon (Col. 4, Lines 42,43). Note that nylon is known to be resilient and will allow the seal to be compressed.

Regarding claim 51, the Sawai reference discloses a first depression (upper groove 83 of Fig. 13).

Regarding claim 52, the Sawai reference discloses the outer surface of the sleeve element (82) as a bearing surface (Fig. 13).

Regarding claim 53, the Sawai reference discloses a sleeve element sized and configured to engage the piston element surface with the inner surface of the annular body (Fig. 13).

Regarding claim 55, the Sawai reference discloses the sleeve element on the surface of the piston element (Fig. 13).

Regarding claim 57, the Sawai reference discloses a first sealing region (portion of 81 above groove 145) configured to be biased laterally into a first recess (84U). Note that the purpose of the energizer (85U) is to push the seal element (81) outwardly and without the energizer the first sealing region would be biasing into the first recess.

Regarding claim 58, the Sawai reference discloses a second recess (84L) and a second sealing feature (85L) configured to be biased laterally into a second recess (84L).

Regarding claim 59, the Sawai reference discloses a first and second retention flange formed to exceed the lateral extent of the sleeve element (Fig. 13).

Regarding claim 60, the Sawai reference discloses a first end region (portion of 81 above groove 145) configured to be biased laterally into a first recess (84U) and a second end region (portion of 81 below groove 145) configured to be biased laterally into a Second recess (84L). Note that the purpose of the energizers (85U and 85L) is to push the seal element (81)

outwardly and without the energizer the first and second end regions would be biasing into the first and second recesses respectively.

Regarding claim 62, the Sawai reference discloses a first energizer (85U) and a second energizer (85L).

Regarding claim 69, the Sawai reference discloses that the sleeve element, the first recess, and the second recess are each sized (Fig. 13). Note that these elements causing deflection is merely intended use and that the seal assembly of the Sawai reference is capable of providing such a function.

Regarding claims 91 and 99, these claims are claimed as method steps, which read on the product of Sawai.

2. Claims 91,92, and 99 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawai et al. (US Patent No. 5,050,892).

Regarding claims 91 and 99, these claims are claimed as method steps, which read on the product of Kawai et al.

Regarding claim 92, the Kawai et al. reference discloses a method wherein disposing the sleeve element between the piston element and the bore surface comprises elongating the sleeve element to increase the size of an interior surface thereof and disposing the sleeve element about the piston element. Note that because the outer diameter of the piston element surface laterally exceeds that of the inner diameter of the sleeve element, an installation cone will have to be used to elongate the sleeve element so that it can be positioned on the piston element.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 63 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawai in view of Military Standardization Handbook on Plastics.

Although the Sawai reference discloses the invention substantially as claimed, it fails to disclose the material in which the energizers are made. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the energizers out of a thermosets or thermoplastics, since it has been held to be within the general skill of a worker in

the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331.

In addition, the Military Standardization Handbook teaches thermoplastic material being widely used for seal, o-rings, etc. It would have been obvious to one skilled in the art to provide the Sawai reference with energizers made of thermoplastic in view of the teachings the Military Standardization Handbook because they are susceptible to the effects of temperature, time, environment , loading rate and processing.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:30 - 5:00, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 571-272-7049. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GL
10/31/05

Heather Shackelford
SPE AU 3673